

GEORGE W. YORK, Editor.

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Mrs. A. J. Barber and Son "Flake."

The principal subject of our sketch this week is perhaps the best known lady bee-keeper in Colorado. She is also a very successful apiarist. It affords us no little pleasure to present Mrs. Barber, and her young son, to our readers. She has this to say in reference to them and their work:

I was born in Oregon, in 1854, and was brought up in California, Utah, Wyoming and Idaho until 14 years of age. Then we went to Kansas. I attended school at St. Mary's Academy, in Leavenworth, for a time, then we settled upon a farm. In 1876 I came to Colorado, and in 1878 we settled here in Montezuma County, which was a new place. At that time there were only five white women here.

In 1882 I was married here to H. M. Barber. In 1890 my husband bought two colonies of Italian bees as an experiment. We didn't expect much of them, as we thought the altitude too great (7,500 feet) for them. We got them in the fall, and it was decided that I should have the care of them. I sent for the "A B C of Bee-Culture," and studied it all winter. In the spring I got another colony, and began.

I had never looked into a hive before, but soon became so fascinated with the work that I could talk of nothing but bees. In the fall, I had 16 colonies from the three, besides honey for the table. The next year I bought some more, and in the fall I had 67 colonies, in all kinds of hives but good ones. I sold about 1,500 pounds of honey that year, and was fully convinced that I knew all about bees that was worth knowing!

About that time one of our neighbors, who had gotten bees from Durango, told me that his bees had died, and he wanted me to put bees in his old hives. I told him to bring his hives, and I filled them for him, and at the same time got 10 of my own colonies infested with foul brood. I treated

the bees and saved them, and saved the honey also, to feed the next spring. I boiled that honey and fed it early the next spring, and in June the whole apiary was rotten with foul brood. I treated them, and got them into dovetailed hives. They were so weakened that I doubled them back to 30 colonies. Then I realized that there were many things that I could learn about bee-keeping, and every year since then I am finding out how much I don't know about bees.

We have fair crops, and have never had a failure. We have from 10,000 to 20,000 pounds a year, of comb and extracted honey. We keep from 100 to 175 colonies.

My little boy, who is now not quite 14 years of age, and rather small, for several years has been my helper in the bee-business. For the last four years he has had charge of an apiary every day in the swarming season. We clip all



Mrs. A. J. Barber.



Flake Barber.

queens, and when I am at work at the home apiary he goes on his wheel to the out-apiary three miles away, and watches for swarms. He catches and returns the queens, and marks the hives so that I can treat them the next day when I visit that apiary. When I visit the out-apiary he works at home. Last summer he had as many as eight swarms some days, and managed them all nicely. He also helps in extracting, by uncapping or turning the extractor, or filling pails. In short, he is serving a regular apprenticeship in bee-keeping, and is busy most of the time. He is a member of the Baptist Church, and an active member of the Baptist Young People's Union.

We do all the work with the bees. There are times

when we call in other members of the family to scrape sections, nail up fixtures, and take the honey to market.

I am still in love with the business, and would heartily recommend it to any woman who is situated so that she can engage in it, provided she has lots of patience, grit and energy.

MRS. A. J. BARBER.

CONTRIBUTED ARTICLES

Extracting and Ripening Uncapt Honey.

BY C. P. DADANT.

I HAVE received the following request for information, which I will answer in the American Bee Journal:

MR. DADANT:—I am seeking information. Will honey extracted before being capt be all right, provided it is put into tanks and ripened? Will this discourage the bees from working and storing?

J. C. T., Miami, Ohio.

We have made extracted honey our specialty in keeping bees for nearly 30 years, or almost since the invention of the honey-extractor; but we have never aimed to extract unripe honey.

Our reason for preferring to produce extracted honey, even tho it is of less ready sale, and of lower price than comb honey, is that we have so many different things to look after—so many irons in the fire—that we find it next to impossible to manage five apiaries with limited help when producing comb honey. The successful managing of a comb-honey apiary requires constant supervision in order to produce honey of the best quality and appearance. Every season the hives must be supplied with a fresh lot of sections, and as fast as these are filled they must be removed and replaced with empty ones, so the combs of sealed honey may not be soiled by propolis and the marks of the passage of the bees—travel-stains, as they are called. Then the product of the apiary must be disposed of during the following winter, for comb honey that has been kept over a year is but a second-grade at best, as there is always more or less leakage and soiling of the sections.

On the other hand, we find that the production of extracted honey lessens the labor. The hives are readily supplied at the opening of the honey season, with the supers and empty combs which have been set aside from the previous crop. One apiary after another may be fitted out in this way with little labor, and one apiarist is sufficient to care for five apiaries, with some time to spare for other work except a few weeks in a very plentiful harvest. If he is accustomed to handling them, and can readily gauge their capacity at sight of the colony, he usually can supply each colony with the amount of surplus-room that it is likely to need for the entire crop, except in extraordinary seasons. And as there is not so much tinkering as with the sections, additional supers, when needed, are soon supplied. When the crop is over, a crew of three to five men takes up the crop in a few days, and the profits are realized without a great expenditure of labor.

Then we find that it is not always advisable to crowd one's honey upon the markets. When we have a large crop many others are successful as well, and prices are low. If we are able to hold our honey we often realize much better prices, for a season of scarcity often follows an abundant harvest. These are the main reasons that have induced us to extract our crops.

We do not wish to be understood as advising others to follow our course, and we believe that each man should act as circumstances direct him; he must be his own judge, and decide on his course accordingly, taking into account his facilities for selling and disposing of his crop, as well as his ability or willingness to put in the labor at taking care of the crop. The average bee-keeper, who has but one apiary, is usually a careful man, neat and precise in his habits. The minutiae of comb-honey production rather pleases him, he delights in producing fine honey, well sealed, in beautiful white comb, and that is why a great majority of apiarists will always prefer the production of comb honey, even if it was not of more ready sale than the extracted honey.

But I am wandering away from the subject of the en-

quiry above. My purpose was to show why we have but little experience in extracting unripe honey, since we always make it a rule to leave the honey on the hives till the crop is over, except, as I said before, in extraordinarily wonderful seasons, when it is impossible to furnish the bees enough room in any reasonable amount of supers. But in such extraordinary seasons the honey is usually more easily ripened than in the years of scant crop, especially when the scant crop is caused by a superabundance of moisture.

The late Chas. F. Muth, who so lamentably ended his career a little over a year ago, was a very practical bee-keeper, as well as one of the most extensive, if not the most extensive, honey-dealer in the entire world, and I have often heard him say that he did not care how unripe the honey was, it could be easily ripened by keeping it in a hot place in an open vessel during the hot weather. His method was to use an extractor-can covered only with a light cloth or muslin, kept in an attic until the end of the summer. I will confess that we have never tried this. Mr. Muth had but a few bees, living in the heart of a great city (Cincinnati), and the amount of unripe honey which he harvested could not be much in the way. But if we were to try this method with apiaries numbering 400 to 500 colonies, it would take a very large room and an endless number of large cans. We prefer to let the bees do the work, which we think they can do with much more satisfactory results. The quantity of honey that has to be handled is much less when it is ripe, and the labor much less. The only gain of which we see any possibility in handling unripe honey is the greater ease with which it may be removed, as one does not wait until it is sealed, or till the crop is over, and there is less danger of excitement in the apiary and of robbing during the operations if they are performed while there is still honey to be had. But the latter result may often be attained by beginning the extracting before the entire finish of the crop.

One thing I must emphasize, and that is, that honey does not necessarily need to be sealed to be ripe. A great deal of honey is left unsealed by the bees after the crop, which is as ripe as the sealed honey, and their reason for leaving it in this shape seems to be only because the crop is nearing its end, or is intermittent, and they probably do not see the need of spending time and wax in sealing cells which they think will be emptied of their honey before many weeks.

On the other hand, honey which is sealed by the bees is not always ripe. We have seen many instances of honey fermenting and bursting the caps of the cells, and such honey when found would better be harvested in separate vessels, to be sold separately. We find more unripe honey in our locality from basswood than from any other bloom. For some reason unknown to us we have seen but very little fall honey that was not thoroly ripened within a very few days after the harvesting of it by the bees.

As to the question whether the taking of their honey will discourage the bees, I would say no. The combs are returned to the hive always sticky with honey, and this seems rather to add a new stimulus to their energy. It has always appeared to us that when the honey was extracted during the flow the bees seemed to work with increased energy, so there would be no objection on that score.

Hancock Co., Ill.



Early California Bee-Keeping—Crop of 1899.

BY W. A. PRYAL.

THE early history of bees in this State dates, I might say, from their introduction into San Jose, then, and still, the garden spot of California. Alameda County, which was then a portion of Santa Clara County (San Jose being the county seat), secured colonies of bees from the Garden City, as the fruit-growers in the latter county, even at that time, recognized the importance of bees in an orchard. So, in the latter 50's and early 60's, Alameda, Santa Clara and Sacramento counties were the home for many years of the bee in this State. Of course, it was not long before adjoining counties became stockt with the little workers. Thus, bees were distributed for a distance north and south of about 150 miles. But Sacramento soon became the center of the bee-business. This was owing mainly to the fact that Mr. Harbison lived there, and was engaged in producing honey, making his patent hive, and, I believe, raising nursery-stock.

The forage along the Sacramento River in those days was excellent. Hydraulic or "placer" mining in the hills

and mountains along the tributaries of the Sacramento had not yet sent down "mountains" of debris to fill the grand Sacramento, so that it was continuously overflowing its banks with every heavy rainfall or sudden thaw of snow in the Sierras. I have not seen it so stated, but I think it was the mines that ruined the bee-business along the Sacramento. For years it did not pay to produce honey there. True, there was much honey produced, but it was from weeds that gave the darkest and rankest sort of nectar. It was often unsalable; only bakers could use it. I presume the slickens from the mines was responsible for the growth of these vile weeds. The good forage had been destroyed for the most part.

The bee-keeper was not the only one to suffer from the hydraulic mining industry. Hundreds and hundreds of acres of beautiful orchards along the Sacramento, Feather, American and other streams were ruined by the overflows caused by the washings from the mines. The rivers were filled with earth rock, and other debris, consequently when there was a freshet the water broke over the river banks and carried vast quantities of sand, rocks, dead trees and other debris into the once fruitful orchards. They were ruined, as it was impossible to remove the sand and debris, and nothing would grow in the sand. (Years later this sand underwent decomposition, and is now able to support vegetation.)

Then grain and vegetable fields suffered almost as badly as the orchards; the difference in most cases being that where the farmer lost one crop the horticulturist lost all his crops, or until such time as he got a new orchard into bearing condition. Often, about the time a new orchard was about to yield the owner a return, another flood would again destroy the labor of years. So, in time, the federal government legislated against the running of slickens into the rivers and streams of the State. If the miner wanted to mine with water he must impound the debris. I think this legislation has been in operation over ten years. It has revived the horticultural interests along the streams that were once blighted.

Thus, to a large extent, honey-yielding flowers again sprang up. Then large fields of alfalfa are raised along these streams. I presume many of them are growing on land washed down from the mines, some or all of which contain particles of the finest kind of gold-dust. With gold at its roots the alfalfa along these streams is now giving the bee-keepers golden drops of honey, which in turn bring him golden nuggets.

It was during the past week that I had occasion to learn about the extent to which the business along the Sacramento has been revived. I saw much of the honey piled up in one of the San Francisco commissions. A few days later it was all sold. It looks very nice. It was alfalfa honey. I am told that while the honey from the San Joaquin valley alfalfa is water-white in color, that of the Sacramento valley is of a very light amber color. I cannot account for this in any other way than that the latter is mixt with some nectar gathered from sources besides alfalfa. The climate of the two valleys is identical, both being very hot in late spring and summer. It is these two valleys that are giving the State its big crop of honey this year. I say "big," for if it were not for these two sources we would have no crop to speak of. The yield in the upper end of the San Joaquin I am told is very good. The alfalfa fields are yielding well. It is destined to be the honey center of California. The yield, I think, this year for the whole State will warrant the bee-keeper getting a good price for his product.

My crop is less than a quarter crop this year. Knowing how to handle honey I managed to get seven cents per pound, less commission. This time last year I was offered three cents for my honey. I would not sell. I told the dealers I would get five before the year was over. In November I sold for 5½ cents. That was something like business. Of course, if I had held on until now I could have obtained a cent and a half more. But I do not believe in holding a product too long. I believe in letting a crop go when you are offered a reasonable price. Give the other fellow a chance to make something. The past spring hay went up to \$18 per ton, owing to the dry outlook of the season. I have friends who were offered this price for barns full of hay. They said no; just wait and we will get \$30, as it is going to be a dry year. A week later the rains came and hay took a tumble. This season's crop is a good one, new hay already selling for from \$8 to \$10.

My advice to any one, unless he can afford it is, don't speculate; you may get burned if you do. Leave it to the Leiters and that class. Even they may die poor by speculating too long.

I hear that some commission houses in San Francisco—one in particular—is working hard among the honey-producers of the State to corner all the honey. This latter house is a Jewish concern, and it hopes to make a big thing in honey. While talking with a representative of a certain house, he said that he was afraid bee-keepers would not send on commission; that they might sell if the honey had not been secured already. I intimated that it might be a good thing for his house to get in and do some buying, too, as it has been doing a big honey-business the past two years. The gentleman told me last week that he sold more honey the past two months than he sold previously in all the years he has been in business, and that's over 20 years.

While at this commission house yesterday afternoon I saw a lot of 53 cases of as fine looking water-white comb honey as I ever saw, that was produced in the Sacramento valley, and which was then being carted out of the store to the railroad depot. Just think, it was being shipped to Los Angeles! If that doesn't appear to be "carrying coals to Newcastle" I am sure I do not know what is. Of course, there was a time, I believe, a quarter of a century or so ago, when this part of the State shipped honey to the lower portion thereof, but that was before it was discovered that the lower counties were a vast bee-garden. Of course, it is the drought down there that has caused honey to flow southward this year. Perhaps next winter the orange-growers in the northern part of the State may be sending their fruit to feed folks of the city of the Angels. Strange, is it not, that the number of the northern counties up along the Sacramento, as well as Sonoma county, send carload after carload of oranges to the Eastern market, we never see any of them in our markets? They come in before the oranges of the southern portion of the State do, consequently they bring a high price, and the growers take advantage of this fact and send them to market where they will get a high price.

I am working on an interesting case that I may send an account of later. It was where a bee-keeper up north always sent five cases of honey to a dealer in San Francisco. It was bought as "tule" honey—a dark honey that is used by the bakers of that city. It was purchased without being sampled, as every dealer knows what the Sacramento and the San Joaquin river "tule" honey is. It was sent around to the party who was to use it, and almost as promptly returned. The "honey" is different from anything I ever saw; it is as dark and thick as New Orleans molasses, and has something of such taste, too. Yet, on careful examination it would pass for a fruit-jelly. I think if it were put in jelly-glasses it would easily sell for such. I am inclined to think the bees that gathered it had access to a field where apricots or prunes were being dried, and just gathered the juice from the fruit. The man whose bees gathered the honey writes the commission house that it was positively extracted from the hives. I am going to write the producer to find all I can about the locality, etc.

The weather is still disagreeable, tho we had a few hot days up to yesterday evening. The indications are that we are going to have early rains, and possibly much of them.

Alameda Co., Calif., July 20.



Making Increase by a Nucleus Method—The Doolittle-Miller Controversy.

BY G. M. DOOLITTLE.

On page 418 I find an "Open Letter to Doolittle" by Dr. Miller, near the close of which he says he is about to formulate some questions according to the way he understood "Iowa" to mean when he asked those found on page 198, and he will reply to them, sending them and his answers to the editor, asking the editor to send the same questions to me for my reply, so that the readers of the "Old Reliable" can see how we agree. Well, the questions have arrived, and I am going to say just what I think regarding them, even tho I cannot read the same thing out of "Iowa's" statement on page 198 that Dr. Miller does. Here are the questions as the Doctor understands them:

I intend to increase artificially this year, and for each new colony I intend to start a nucleus by putting in the new hive a frame of brood and eggs and a frame of honey, closing up the two frames at one side of the hive with a division-board, then giving a sufficient number of bees. I intend to get the bees from the colonies with laying queens, shaking the bees from the combs and giving them directly to the nuclei.

1. How many bees will I have to put into a hive?
2. Will a pint do?
3. Will these bees rear a queen from the eggs given them?
4. Do you think a nucleus formed in this way will be all right?
5. Would it be safe from robber-bees?

Iowa.

ANSWERS.—1. As it is stated that "Iowa" intends to take the bees which he is to use in forming his nuclei "from the colonies with laying queens, shaking the bees from the combs and giving them directly to said nuclei," I would reply that under such conditions *all* the bees there were in any one colony from which they were taken would *not* be sufficient to form a decent nucleus. If any one has not tried this way of working, it appears very nicely in print, but let it once be tried and it will never appear nice after that, for bees so shaken are the most persistent things in trying to get back to "mamma" of anything I ever had to deal with.

The proposition does not even hint at any precautions being taken to keep those bees in the hive with the comb of brood and honey, and unless such precautions *are* taken, there will not remain bees enough in that hive to make a decent nucleus 24 hours later, no matter if two bushels are put in by the plan proposed, for what cannot get back home again will run out of the hive and scatter over the ground, thru the grass and anywhere but stay with those two combs in that hive. I know what I am talking about, for I have tried it many times, even putting them in just at dark, only to find them scattered all over everything surrounding the hive early the next morning, with scarcely a bee inside on the brood and honey.

These being the true facts in the case, the one word "No" very fully answers questions 2, 3, 4 and 5.

Now I want Dr. Miller to turn to his open letter to me and read the last half of paragraph four over again, then tell us where he got any such an idea from my article on pages 370 and 371, that "Iowa" would "lose a queen by the operation." Did not I distinctly state on page 371, that after the hive having cast a swarm was set on the stand previously occupied by the nucleus that the queen was to be let out of the cage, and "allowed to run in her old home"? And did I not make it equally plain that the queen reared in the nucleus was to be shaken with the bees out in front of her hive so that the queen, the bees from the nucleus, and the swarm, might run into the hive together so that no quarreling would result? Don't throw "hypercritical" back at me Doctor, for if you will take pains to read out, what there is in that plan as I gave it there, you will find one of the great and grand principles which can often be used in practical bee-keeping. It is not always easy to make a *swarm* take another queen besides the one which issues with them, for a swarm having its queen taken from them and a new one supplied before it gets fully settled in its new hive or home, is nearly as persistent in leaving the new hive and going back home as are the bees used to form a nucleus by the way "Iowa" proposed to do it, except the few which are engaged in hugging and persecuting the new queen.

Then I want to say a word or two regarding the first paragraph in your open letter. You say:

"I trust I shall always have the grace to receive kindly any criticism made upon any writing of mine, so long as the criticism is given in a spirit of kindness."

You and I profess to belong to the Master, and does not the Master enjoin on his followers that they have grace given them from on high to receive kindly any criticism, or anything else, no matter whether given in the spirit of kindness or not, that they may be true representatives of the meek and lowly Jesus, thus honoring our Father which is in Heaven? And if this is enjoined upon us, shall you and I be disobedient children because some one criticises us in unkindness?

Then I wish to say a word or two regarding the questions I askt you on page 306. You evidently seemed to think that I askt them in a captious way, taking the last two sentences in your reply as evidences, together with the little thrust you give the editor in the first sentence. It would seem that you should have known me long enough to know that I do nothing in a captious way, nor to be hypercritical. Perhaps you were a little soured over your controversy with R. L. Taylor, and so are excusable.

What I was after in those questions was to draw you out on some of the fine or nice points with which a queen-breeder has to contend. Those buying queens are not so content with "generalities" as you are, Doctor, and because only generalities are generally given when giving a description of pure [?] Italians, golden Italians, albinos, etc., queen-breeders are often denounced as "frauds, cheats, dead-beats," and everything but honest. To keep my skirts clear of such accusations I keep standing in my circular all the time these words: "I do not claim all the purity of stock that some do, nor lay so much stress on golden bands," and in this way I escape being told that I have misrepresented in the queens I send out. And those ques-

tions were put to you in the hope that you would so specify in your answers that some of the pressure of "breeding to a feather" would be taken off queen-breeders who do not keep what I do standing in their circulars.

Of course, I could have told you what I was after, but that would have detracted from your answers, as the readers would have considered that you were doing something to bolster up the queen-breeders in not sending out queens giving bees mark as they were led to think bees should be markt by what they generally read. Were you a queen-breeder, you would realize something of the pressure brought to bear on such breeders by those who are hard to satisfy.

Onondaga Co., N. Y.

[The condensd answers which Dr. Miller sent with the questions formulated for Mr. Doolittle, are as follows:—
EDITOR.]

DR. MILLER'S ANSWERS TO THE QUESTIONS.

1. A quart of bees might do to start the nucleus.
2. Not so well as a quart, but if the comb is well filled with sealed brood nearly mature, the nucleus might hold its own.
3. Very likely; but I wouldn't give much for such queens.
4. No, it wouldn't be a nucleus that would satisfy me.
5. Not very, if they were troublesome.

C. C. MILLER.



Preparing Extracted Honey for the Market.

(Read by Fred Brown at the California Bee-Keepers' Convention, held in Hansford.)

WE will assume that the bees are gathering honey very fast, as this is the time in which the work is slighted if any, as at such times the honey is often extracted before it is ripe; and that being the case, the honey coming in fast is not allowed to ripen, and when it is put on the market it is not of a good, heavy body, and the flavor is also not the best.

EXTRACTING.—The honey should be at least three-quarters sealed, to insure a good state of ripeness, and even then it should not go into the cans without first going thru the tank.

With the honey thus sealed, we will proceed to the apiary, as there is where the preparation for good, marketable honey will begin. We will have a box with a tin bottom, to put the combs in when they are taken from the hive, the tin bottom will prevent there being any drip, which is a waste, that gathers dirt, and will keep your extracting room in a muss; the appearance will not be tidy, and there is more liable to accumulate filth in the packing of the honey for the market.

After the honey is thus in the house, and is uncapt and extracted by the extractor, it should be run thru a separator. Allow the honey to run thru the tank, or into a tank. And right here I wish to say that you cannot prepare honey properly without a tank.

GOOD, RIPE HONEY.—And further, I wish to say that I hope that the honey-producers of this association will profit by the lesson taught us by the fruit-packers of this community—that it is important to commence right, so there will be no complaint with the honey, as there was with the fruit that has gone into the Eastern market (and by way of digression let me say, there was some very poorly prepared honey that the association placed upon the market last season). Some was very thin, some was very dirty, and was not in a merchantable condition when received by me, and when told to the parties thus offering it, I was met with the answer that if I did not want it there were others in town that would be glad to take it. Such honey, in order to make it marketable, had to be dump into a tank and allowed to settle before it was fit to sell at all.

So you will see the necessity of each one that packs honey to have a tank, as poor stuff should not be allowed to compete with good, clean honey. Furthermore, we should have pride enough to want to place only that grade of goods on the market that we know to be absolutely clean, such as would be inviting to a lover of sweets.

HONEY-TANKS.—The best style of a tank, to my notion, is one that is not too deep. The one that I use is 6 feet long by 3 feet wide, and a depth of 30 inches. It will hold about 40 hundredweight, and is not very hard to get the honey into, as it is shallow, and another advantage is that it has a good evaporating surface.



Bee-Shed of Thos. Wickersham, Whatcom Co., Wash.

One should, by all means, have the honey-house so arranged that the honey from the extractor will run directly thru the separator, thence to the tank without any handling whatever, and after a short time the honey can be drawn off, and it will be absolutely clean and marketable.

In my honey-house I keep the tank always full, drawing off about five cans at a time. In this way you always have a good pressure to draw from, and then as the honey evaporates it will settle to the bottom, and the thinnest will be on the top, so you are always drawing off the heavy, thick honey.

HONEY-CANS.—When there is a call for a shipment of honey, cans should be washed clean of all the dust or honey that has been scattered on top of the cans, as often is the case in filling.

In every instance the cases should be new and clean; new looking, so the general appearance will be attractive. Do not use oil-cases, by turning them to hide the marks, as it is not a first-class case, and not a very strong one after being once torn up and reconstructed.

Draw a sample of every grade, and have the cases so marked to correspond with the sample, that there will be no difficulty in locating the different grades, as represented by the sample.

FILLING CANS.—I would recommend that the honey be weighed in the cans, putting in just 60 pounds to the can—120 pounds to the case. If this would work well, which it should, there would be no question about the tare, as it would be checked up at 120 pounds to the case, and nothing said about the tare. We tried this plan one season, and got some in that way, and if I handle the honey for the association this season I will do all that I can to get the pur-chasers to accept the honey in this style.

The main point to be careful about is to see that the honey is drawn into the cans from a well-filled tank, and that it is well ripened, and that the proper sample has been taken from each lot. Keep the cans very clean on the outside as well as the inside, and there will be little trouble about unmarketable honey.

As a rule, we in the valley have a good, heavy grade of honey, and with a little care we can build up a good demand for our produce, which will bring a ready market and a good figure.



Bee-Keeping in the State of Washington.

BY THOS. WICKERSHAM.

THINKING that a description of some of our Puget Sound methods of keeping bees might be of interest to some of the many readers of the American Bee Journal, I herewith send a photograph of a bee-shed of my own construction, which has proven very satisfactory.

The shed is 60 feet long and 12 wide, and contains 36 hives. At the left end, where you see the window, I have a room bee-tight for storing honey, supplies, etc.

The lattice-work allows ventilation and light sufficient

to make it quite comfortable for handling bees in summer. I have a row of hives on the opposite side of the shed, the same as is shown in the picture. Some seasons I place the hives on the ground in the center of the shed, and pack hay around them for winter; other times I leave them on the summer stands, and have not been able to decide which of the two ways is better. I don't think this is a first-class country for honey in the way of quantity, but I doubt if there is a State in the Union that will excel in quality.

Last season I got 1,800 pounds of fine comb honey from 21 colonies, and increase to 36. The prospects so far this season are very poor, having only two days of sunshine in May and April, and but very little better and still raining in June. It is somewhat discouraging for the manipulation of nectar. However, the bees are in fine shape for work, if "Old Sol" should put in his appearance.

Whatcom Co., Wash., June 2.

[We wish that others would follow Mr. Wickersham's example, and send us photographs of things they have found helpful in their work with the bees. We could hardly agree to use all that might be sent in, but we would try to use as many as we could of the pictures, accompanied by descriptions.—ED.]



CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Building Comb from Brood-Frames up thru the Sections.

Why do my bees build up from the frames thru the bottom of the sections? I never had any trouble in that way until last season. I have the "A B C of Bee-Culture," but it doesn't mention a case like it, at least I can't find any.

MINNESOTA.

ANSWER.—The trouble likely occurred because the bees were crowded for room, in which case the evident remedy would be timely increase of surplus-room. Too much space between frames and sections might also be to blame.

Nucleus Balling the Queen.

I have a one-comb observatory hive, and about a month ago I put a frame of brood-comb in it (some of the eggs had just been laid) and about 200 bees; the brood became chilled and died, but the bees remained. Last week I secured a virgin queen from a third swarm and put her into the observatory, together with about 400 of her own bees; all seemed lovely and harmonious for three days; the bees started to clean up the comb and to carry out the dead brood, but on the fourth day, when I examined the hive, I found the bees had the queen "balled," and were trying hard to sting her. I took her out for a few hours, gave her some honey, and let her run back into the hive again, when the bees immediately attackt her as before, running wild after her, and I was forced to remove her for safety. Why should they attack her after so many days, and how can I make them accept her? She is still a virgin. CITY.

ANSWER.—It is hard to give a satisfactory "why" for all the antics of bees with regard to queens. Sometimes

they will ball their own queen after she has been laying a year. In such cases it is perhaps to protect the queen, and it is possible they may have had no evil intent with regard to your queen. When you open a hive and find the bees balling a queen that they have before treated peaceably, the best thing is to close the hive promptly, and generally there will be no more trouble.

Extracting from the Brood-Chamber.

We are having a good flow of alfalfa honey—brood-chambers full and all in the supers. I have taken off some. How would it do to extract from brood-frames about the time the fall flow from heart's-ease begins? The bees averaged 50 pounds last fall of this dark honey. Would you take all the honey out? Will I run any risk of starving the bees? Your kind of splints on foundation for frames are all right. No sagging now.

KANSAS.

ANSWER.—Whether the bees would get enough for winter from the fall flow you can only judge by past years. If you extract their white honey from the brood-combs, you must be ready to feed in case they don't get enough from the dark honey.

Glad you like the splints. They certainly work better for me than wires. But I find it doesn't do to give them to weak nuclei, which take time to gnaw out the sticks. With a full flow, in a strong colony, they are built out beautifully.

Colony with Laying Workers.

I had a queen that patcht her eggs and had drone-brood mixt all about with the worker. I pincht her head. Then I gave them a frame with three sealed queen-cells; a week after that I found they had destroyed the cells and were rearing a queen. I cut the cell out. The next day I hived an afterswarm, which I supposed had a virgin queen. All seemed to be lovely for another week, when I found no traces of a queen, laying worker, or anything of the kind. Then I gave them a fine frame of comb with brood and eggs. I then took the measles myself, and left them to their fate for 15 days. Now they have drone-brood stuck all about thru the hive. What was the matter with them?

INDIAN TERRITORY.

ANSWER.—The queen was lost in some way, most likely on her wedding-trip, and then laying workers set up business. The best way is to break up the colony and give it to others. You can start a new colony more easily than you can get into proper working order a colony in which laying workers have been doing business for some time.

Early Italianizing—Deep Entrances—Preventing the Return of Bees After Moving.

1. In this part of California the bees are all hybrids, and I expect some Italian queens from Eastern breeders this season. Next spring I wish to get as many Italian mated queens into my apiary as possible without too much expense. The climate is very mild here. Can I, early next spring, feed to stimulate these Italian colonies so they will be strong, and part of them have drones before the hybrids have got so far along? Then re-queen the others, and get the queens out and mated before the hybrid drones are out of the comb? They can mate early here, so far as the weather is concerned. It seems to me that if I manage rightly I ought to be able to get as pure Italians as the breeders could produce, without much expense and trouble.

2. I have known it stated that queenless bees will draw out a queen-cell wherever you bruise the comb with a knife-blade under an egg or larvæ. Is this your experience with Italian bees? I will put one cell in each queenless colony.

3. It having been settled by experience during the past year that a deep entrance to a hive overcomes many drawbacks, the next move is to obtain it. I have seen many ways mentioned but I never run across this plan: Take 16-inch shingles and cut them into strips $\frac{1}{2}$ -inch wide and place one or more (butts out) on each side of the entrance, as per the desired depth. The bees then can run up the sides or go the rear end, then climb up. The expense of fixing a hive is scarcely nothing, and not one bee-keeper in a hundred but has shingles lying about the place.

4. When I have occasion to move a colony of bees I have had success in preventing them from returning to the

old place, by smoking them quite freely when they are coming out after removing the obstruction. Bees seldom leave their home when anything of this kind is too numerous, and I think in the meantime they discover the change in the location.

CALIFORNIA.

ANSWERS.—1. Your plan may not succeed as well as you anticipate, but it will probably do a good deal better than to leave matters entirely to their own course. Draw brood from the hybrid colonies to strengthen the best Italians, then furnish plenty of drone-comb, and with feeding you ought to anticipate considerably the dark drones.

If you want to take the trouble, later on in the season, you might try a plan given in the Canadian Bee Journal. Furnish the nuclei that have your virgin queens with plenty drones of the desired kind. Put the nucleus in the cellar, and after drones in the apiary have ceased to fly, set out the nucleus. If the queen fails to mate, put the nucleus back in the cellar and try it again the next day.

2. I've tried it, but with no great success. Unless you know for sure that the one cell you give is a good one, it is better to allow several and trust to the bees to retain the best. If you give a full colony more than one cell, of course the colony may swarm, but it's better to rear the queens in nuclei.

3. That's an excellent way to enlarge the front entrance and leave the other three sides closed, but I'd rather have all four sides open. The bees don't seem to have any trouble climbing up.

4. I think that's an original plan, and I don't see why it may not be good. A common way is to put a board in front as an obstruction, but a wall of smoke may be a good deal better.

Loose or Tight Bottom-Boards—Wedges in Place of Division-Boards.

1. Ought Langstroth dovetailed hives to be nailed to the bottom-boards or left loose?

2. Can I without hurt to the bees take out the division-boards and substitute wedges to facilitate the removal of the frames which are so tightly stuck together that I have trouble removing them? My frames are the Langstroth-spacing kind.

"VIRGINIA.

ANSWERS.—1. After trying both ways on a large scale, I wouldn't have mine nailed for a good deal of money. Often it is desirable to have one story above another, and you are blocked from anything of that kind if the bottoms are nailed fast. I don't know that any one nails the bottoms on dovetailed hives. When I want a bottom fast to a hive, as I do in hauling, I fasten it with staples, which can easily be drawn out.

2. If you are in a place where propolis is bad and have self-spacing frames of the Hoffman kind, I'm sorry for you. Putting in wedges in place of dummies would only help temporarily. The bees would lengthen out the cells of the outside frame so there would be no extra room. I have some frames of that kind, and I've taken out the dummy and allowed the frames all to spread a little further apart. But I don't want any more frames of that kind where propolis is plenty.

Number of Extracting-Frames—Putting Supers on Swarms.

1. Do you use as many extracting frames for a super as there are brood-frames below?

2. Will not placing supers from the old hive on the swarm immediately after being hived cause them to neglect drawing out the foundation in the brood-frames? I have two in that condition, and I have taken off some full sections from each.

ALABAMA.

ANSWERS.—1. Yes, I've spaced frames the same in the super as in the brood-chamber, when working for extracted honey. I think that is the practice of the majority. Some prefer greater spacing in the super, as with deeper cells the queen is not so likely to lay in the super, but it is probably best in any case to use excluders so the queen can't get up.

2. They may go to work more promptly in the brood-chamber if there is nothing above, but that is not generally considered, for super work is more desired than brood-rearing. But if you want to make sure of the work commencing more promptly below, you can follow the plan of those who do not put on the supers until two or three days after hiving.



The "Old Reliable" seen through New and Unreliable Glasses.
By "COGITATOR."

SOMETHING THAT AFFECTS THE HONEY-FLOW.

There is a topic which will bear a great deal more talking about than it has ever received, which is alluded to in Dr. Miller's letter on page 396. About time for us to stop saying so much, it was so cold, or so wet, or such a drought prevailed, that very little honey came in. Of course, severe cold, or constant rain, or *very* severe and long-continued drought, arrests the honey-flow; but there is something beyond and different from these which constitutes the main reason. When that mysterious something is right, any one of these three hindrances may hinder greatly, and yet there'll be a fair crop. When that mysterious something is wrong there'll be no flow, tho all three of the regulation scape-goats could be choked to death with old tinware. Let's find out about it. I think the failure of basswood late years is owing to a fungous disease of the blossoms and leaves; but that, too, is an eccentric, and does not touch the main thing. The true solution must be able to account for the sudden commencement of the honey-flow when nothing plainly visible as to weather has changed. "More things in heaven and earth Horatio," etc.

QUEEN-CLIPPERS AND CLIPPING.

Avaunt there, thou queen-clipper, Prof. Cook! Can't you "jist be aisy" without saying that the wisest of insects, the ants, give us a pointer to clip the queen's wing, when they break off the wings of their queens? The wings of queen-ants are apparently articulated on purpose to break off (like the stems of brittle willows, and the bases of leaf petioles), and the wings of bee-queens are not so articulated. Moreover, we have respectable evidence that ant-queens sometimes break their own wings off; and bee-queens are not led to attempt that. Page 386.

BEE-STINGS AND THEIR EFFECT.

Dadant's article on the bee-sting, page 386, is a very interesting one. I doubted the identity of bee-poison with serpent poison, but did not think before of the evidence he gives—stomach revolts violently against bee-poison, but tolerates serpent poison to such an extent that a serpent bite can be sukt with safety. (But is it true that a direct dose of apis nauseates the stomach? And isn't it true that a man bitten by a serpent soon vomits violently?)

I see he repeats the same old caution not to rub or pinch the sting out. Very bad advice, it seems to me. Of course, if one could lift off the sting with the point of a knife *without any delay* it would be better; but practically care in extracting the sting means delay, and delay means a full dose of the poison. I would say, get a sting out *instantly*—with thumb or finger nail, if you have a hand at liberty, otherwise rub it out against the most convenient object—and don't rub so gently as to have to rub the second time. My idea is that the holes thru which the poison flows are too small for pressure to send thru very much additional poison, if one is *quick* enough.

RUBBER RINGS DIPT IN HOT BEESWAX.

Mr. Davenport, on page 387, gets a joke off on us, keeps us watching all the way to see the failure he had made, and then tells us that he succeeded. Just dip rubber rings in pretty hot melted beeswax, and honey cannot ooze out under them. It may transpire that this is a very valuable little discovery, and not for honey alone, but for fruit also.

"FOOL NEWSPAPER APICULTURE."

That half-acre of sweet clover under wire netting, to keep the honey unmixed, rather marks the high-water mark of fool newspaper apiculture; but then, yarns of that character don't do us any harm. Page 392.

GLUCOSE—THE GREAT ADULTERANT.

Glucose—editorial on page 393. Ten pounds of liquid lies made for each human being in the nation! We are not obliged to drink the liquid pandemonium that another kind

of Satan's institutions puts out; but these liquid lies we have to swallow. What are we going to do about it? In some countries the answer to that inquiry would be, "Why, bless your soul and body, we can't even think of doing anything about it. They've got on their side the power, and the wealth, and the officials—and the law, too, all they want of it." It is a proper cause of thanksgiving that in our country, when there are monstrous failures of justice, or great triumphs of wrong, there is not so strong a disposition to say we can't do anything about it. Better the American spirit (even if we have to take Judge Lynch thrown in) than the hopeless, sheeplike spirit which some would command to us.

MRS. HARRISON'S "DARNED" COMBS.

And so when the worms get in Mrs. Harrison's store of extra combs she just darns 'em—not profanely at all (as to no purpose many a masculine craftfellow has oft done), but with the blessed, old, orthodox darning-needle. Interesting to see that so simple a device, faithfully used every ten days, keeps the combs. Page 413.

MAKING FOUNDATION-MOLDS.

The article of Adrian Getaz, on page 402, is as full of suggestions as an egg is of meat. Portland cement much more substantial than plaster to make foundation molds for home use. The tedium of waiting for the material to set can be borne, seeing you are to get a plate as solid as good stone in the end. His flatwise dipping method seems to be excellent. Rock the dipping plank as you put it in the wax—and whisk it quickly wax side up, when you withdraw it—and finally make the sheet drop off itself by plunging the whole thing in warm water. One advantage of the method is that it is adapted to sheeting *small amounts* of wax.

But perhaps the most valuable thing of all is how to drive nails in little pieces of fragile wood—clamp the pieces in a vise while driving.

"THE NECTAR IN FLOWER-CUPS."

Happy to see Mr. Norton again, on page 403; but I'm pretty sure he's wrong in saying that silica in water is only in suspension. Not even sure that he logically covers all the points to prove that thick and thin nectar do not exist in a flower simultaneously. How does he know that two contiguous nectar-glands secrete nectar of exactly the same thinness? What's to hinder a ribbonlike film of nectar in a flower from being half dried down at one end, and nearly in original condition at the other? or yesterday's secretion from being thick, when present thin secretions are just beginning to pour out?

FEEDING IN FAMINE SEASONS.

Queens from eggs taken from the *very best* colonies, and subjects for them to reign over from the laggard colonies, not much good for surplus honey. Worth thinking of—but don't tumble in without thinking. This is ament Dadant's article on page 403. It seems the Dadants, when feeding in famine seasons, have never yet failed to get the honey back, and more, too, before the season was over.

CARE REQUIRED BY SHEEP AND BEES.

Twice a week for a sheep, and not twice a season for the bees—the way the average farmer does. Bees to blame. They could stop this nonsense if they would *always* die off under it, but sometimes they don't. This for the Doolittle article on page 404.

TAR SMELL ON FOUNDATION—ABSCONDING.

I think Dr. Miller is wrong, on page 405, in expecting a swarm not to mind the smell of tar on foundation. The lady says some of the swarms object to running in (just what I should expect), and when they don't want to go in it stands to reason that they may not want to stay in. One good and easy way to hold bees which are inclined to abscond is to bury the basket and swarm in a suitable pit until near eventide, and then take them out and hive them. They can't well run away in the night, and by morning they may have decided to stay. If also foul-broody, I'd try keeping them in the pit till they began to tumble down from starvation, and feed them well directly after hiving.

CYCLONE-CELLAR FOR THE BAD BOYS.

And so 8,000 miles from Manila, and less than 2,000 years from the Advent, the first lightning struck from the thunder heads (not dunderheads) of the United States Bee-Keepers' Association. Bully! Now may there be no let-up to the cyclone till the bad boys are all in the cyclone-cellar—substantial and reticulated irons on the cellar windows.

COGITATOR.

GEORGE W. YORK, Editor.



ONE DOLLAR A YEAR.



SAMPLE COPY FREE.

[Entered at the Post-Office at Chicago as Second-Class Mail Matter.]

United States Bee-Keepers' Association.

Organized to advance the pursuit of Apiculture; to promote the interests of bee-keepers; to protect its members; to prevent the adulteration of honey; and to prosecute the dishonest honey-commission men.

Membership Fee—\$1.00 per Annum.

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Place and Date of Next Meeting:

IN FRANKLIN INSTITUTE,
15 South 7th Street, between Market and Chestnut Sts., P. Philadelphia, Pa.,
September 5, 6 and 7, 1899. Every bee-keeper is invited.

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NO. 31.

NOTE—The American Bee Journal adopts the Orthography of the following Rule, recommended by the joint action of the American Philological Association and the Philological Society of England:—Change “d” or “ed” final to “t” when so pronounced, except when the “e” affects a preceding sound.

Marketing the Honey Crop will soon be a subject in which at least some bee-keepers will be interested. We would be glad to publish the experience of those who have really been successful in the line indicated in the home market. While everybody cannot be expert salesmen, still there are many good plans that no doubt could be used by almost anybody. The question is: How to sell the honey crop to the best advantage in the home market?

Removing Granulated Honey from Combs.—Mr. John Kedrick gives the following method in the Canadian Bee Journal:

First take the cappings, after the honey has been drained out, and put them into a tub of lukewarm water and allow them to remain there for 24 hours or longer, then squeeze the cappings from the liquid. This liquid will be ready for use in the course of six months.

Then uncap the comb and place it in the liquid. Allow it to remain there for 12 or 24 hours, according to the strength of the liquid. Your comb will come out perfectly clean, without being injured. Old comb may be cleaned in the same way.

This liquid for cleaning the comb may be formed in another way, *i. e.*, in a gallon of water put about a pound of honey, and let it stand for some time. The length of time would vary according to the temperature of the place. If kept in a warm place it would be ready for use sooner than if left in a cool place.

After trying about every method, I have proved the above to be a great success.

The Honey Prospects in this (Cook) county have been good for the present season. Last Saturday (July 22) we took a bicycle ride among several of the bee-keepers within a few miles of our home, and found the bees were just rolling in the honey from sweet clover. And there are miles and miles of this wonderful honey-yielder in this county—seas and seas of the fragrant white bloom.

Among the apiaries visited were two of those owned by Mr. L. Kreutzinger, and that of Mr. H. S. Jones. Mr. K. has three bee-yards this season, in which are a total of 200 colonies. Some of the hives had four and five supers on them, many of the supers being ready to empty. He runs his apiaries entirely for comb honey, as does Mr. Jones also.

The four apiaries referred to are all surrounded with a great expanse of sweet clover, and should yield a bountiful harvest.

We believe Mr. Kreutzinger is the largest bee-keeper in this county. We presume he aspires to equal Dr. Miller, both in number of colonies and amount of comb honey produced (when the Doctor has a good crop). But we are inclined to think that Mr. K. did not make expenses during the past two years. But this year may help him out.

An Apiarian Picture Wanted.—The editor of Gleanings in Bee-Culture offers \$10 for a satisfactory picture of “a young lady of prepossessing appearance, becomingly drest, holding a swarm of bees on a limb she has just cut from a tree,” and stipulates that she must be an unconscious beauty. Rather hard requirements! If she is appropriately drest for bee-work, she will hardly be drest in a very becoming manner, and if she can “have about her an unconscious air of ease and grace” when posing for a \$10 picture to be admired by all the readers of “A B C of Bee-Culture”—well, perhaps there are some angels keeping bees.

We notice further that Editor Root says all that will be put below the picture will be, “A Good Catch”—not even the name of the charming young lady. Now, that’s real mean! Many a young fellow will wonder why her full name and address is omitted if she is “A Good Catch”—presuming that the “Good Catch” may refer both to the winsome young lady and to the swarm of bees she is holding.

Get and Keep Up-to-Date.—On page 468 of last week’s number, Rev. L. J. Templin gave quite a sermon along the line of keeping up with the present progressive times. It will repay a careful reading even if you don’t agree with all he says. We need occasionally to have recounted the many onward steps in our advancing civilization, lest we fail to note the rate of speed at which the world about us is moving, and we be left far in the rear.

Right in line with Mr. Templin’s suggestions are the following, written by Editor Hutchinson in the July Bee-Keepers’ Review, to which we invite attention:

CATCH THE SPIRIT OF THE TIMES.

Perhaps I am a little peculiar. I am quite given to following observation with speculation, theorizing and moralizing—to the drawing of lessons from very small circumstances. If a man comes into this town and starts in some business that is really overdone, and actually proceeds to take business right away from men who have been here for years, I am interested in knowing exactly *how* he did it. I want to get right down to the root and foundation, to discover the *principle* upon which he succeeded. If a man fails in business, especially one who has been apparently successful for many years, I am interested in knowing *why* he failed. In such cases there is almost always something wrong. I do not mean wicked, but not managed as it ought to have been. The causes of failures are numerous, and the one that leads to a particular failure is sometimes the

least suspected by the unfortunate man who is making the mistake. Some merchants have failed from employing cheap, inefficient help, under the mistaken idea that they were practicing economy. Others have greatly assisted their success by an opposite course. Some have failed from a lack of advertising of the right kind. Others have succeeded because of their excellent advertising methods. Others have failed because they did not keep up with the times. Their methods were all right for 30 years ago, but not appropriate for this age of steam and electricity. The time was when a man could sit in his office and wait for business to come to him. That day has past. Now he must go after the business—and hustle, too, while he is about it.

A new merchant comes into a town where the merchants are of the old class; he renovates the store from top to bottom, outside and inside; uses paper and paint and plate glass; makes a handsome display in his windows; changes this display quite often; puts in a telephone; has a nice delivery wagon; uses column after column, perhaps page after page, in the local paper; in short, leaves no stone unturned to boom his business; if his other methods of business are correct, he gets the trade, and men who have been in business for years, but have been in a rut, so to speak, will go down—if anybody goes down.

I was quite interested in the way that Mr. Davenport sold his honey at a good price by advertising it in the local papers. This is an illustration of the advantages that may be gained by catching the spirit of the times. A merchant in a small town would find his dollars well spent if he would make a visit to the stores in some large city—simply that he might catch the spirit of the times. I do not mean that he could profitably put into practice all of the methods that he would see, but what he would see would help him to get out of a rut and into more modern and more profitable ways of doing business.

The way of doing things makes such a vast difference in the success or failure of any undertaking. I saw an illustration yesterday right from my office window. A man came along selling strawberries. He sat up straight on his wagon seat and bawled "s-t-r-a-w-berryes." I saw one woman come out and buy some berries. A short time afterward two women came along selling berries. One woman drove the horse, and the other took a box of berries in her hand and called at the door of each house and showed her berries. There was scarcely a house at which she failed to make a sale.

If the manufacturer of some line of aparian goods, whose goods are of the very best quality, would go at it in the right way, he could have the lead in the trade in that line of goods. The goods would have to be advertised in a telling, striking, unique manner. Some commission man in Chicago might receive the lion's share of the consignments of honey if he would advertise himself and his business in the right way. The same might be said of a commission man in New York, or any city for that matter. The trouble is, that so many of us are inclined to keep along in the same old way, instead of striking out and catching the spirit of the times.

Bee-keepers ought to read all of the journals, visit other bee-keepers, and attend conventions. They, as well as others, need to catch the spirit of the times.

Again the Spelling Reform.—Stenog touches on the Bee-Keepers' Review in the following paragraph, which we take from Gleanings in Bee-Culture for July 1:

Mr. Hutchinson is inclined to adhere in the main to the common spelling. He says: "So long as a system is radically wrong, we gain very little by tinkering with minor results." Further down he says, touching the fashions, "Girls' plaid shirt-waists must be laid aside for striped ones." "Stripped"—how so, Mr. H.?

Don't you see, Stenog, that if Mr. Hutchinson followed the reformed spelling, such mistakes would be less likely to occur? If *stripped* were printed instead of *striped*, it would be corrected to *striped*, and then the error would come to the surface. Better climb in the band-wagon and come along, Stenog. To be sure, you have a big lot of prejudice, but then you have a bigger lot of hard sense, and it is only a question of time when the sense will overcome the prejudice. And you would be of very much assistance. Better come along now.

As to Mr. Hutchinson's argument, if argument it be

called—"So long as a system is radically wrong, we gain very little by tinkering with minor results"—there would be a good deal in that if it were generally admitted that the present system of spelling is radically wrong. The trouble is that so many think it radically right. Tinker some of the "minor" defects, and get the public used to it, so that the system will not be considered so sacredly perfect, and then the way will be easier to make radical changes.



MR. T. F. BINGHAM, of Clare Co., Mich., the big bee-smoker man, wrote us July 14: "Bees have done fairly, and are still doing a little."

* * * *

MR. J. T. CALVERT, business manager of the A. I. Root Co., spent Friday, July 21, with us. He was returning from his annual trip among some of the Wisconsin and Michigan bee-supply manufacturers and dealers. Mr. Calvert was looking and feeling fine physically, showing that he hadn't been overworkt in handling the bee-supply business this year.

* * * *

MR. E. W. HAAG is the successor to Mr. Theodore Bender, of Canton, Ohio, in the latter's queen-business. We had the pleasure of meeting Mr. Haag at the Buffalo convention—in fact, he was one of the six or eight of us that "cotted" one or two nights in the same room. Mr. Bender will still continue to handle bee-supplies as heretofore. Mr. Haag's advertisement will be found in our advertising columns. We wish him every success, as we believe he fully deserves.

* * * *

EDITOR H. E. HILL is in Florida, where he had an apiary three years ago, near the Indian River narrows. He gives a fine view of his apiary. The hives seem right on the brink of a large body of water, on which is a skiff. The picture is a tempting one, and makes one wish to go to Florida. On the St. Lucie River Mr. Hill extracted, barreled, and shipt 3,500 pounds of palmetto honey from 65 colonies in two weeks. When that failed he moved to Miami in the sailboat, and then to Stuart, making a cruise of 300 miles. One morning they were just ready for breakfast when an overhanging limb swept the table bare, throwing the viands to Neptune.—Gleanings in Bee-Culture.

* * * *

MR. G. M. DOOLITTLE, in the Progressive Bee-Keeper, speaks thus about writing for the bee-papers:

"As the writers of the past were willing to shed light on our apicultural pathway, we would be ungrateful children indeed were we not willing to hand down that light to others, together with all of the accumulated light that we may have been able to gather as we have journeyed up the mount of apiculture. Oh! how much we owe to those who have preceded us, and yet how often we are selfish enough to hug the whole unto ourselves and keep all we may get and all we may produce within ourselves, claiming that we have a *perfect right* to all we can secure for ourselves. Having received, there is a *debt* hanging on every one thus receiving, to pay that debt with interest, to all who are about us, and in the paying comes far greater happiness than in the receiving. And this is the reason why I write, often when weary and greatly fatigued, when the couch looks far more inviting than the paper and thoughts which I am about to convey, but I thank God that duty calls louder for me to pay my *debts* than does the ease of the couch, especially if my 'scribbling' is of help to any one. Only as all unite in giving their mite to the common good, can apiculture reach the high table-ground at the top of the perfected summit."

We might add for Mr. Doolittle's encouragement, that the writings of no other of our contributors are more highly valued than are his. So he can rest assured that his work is duly appreciated by many thousands who read the American bee-papers all over this country and others.



Odor and Color Make Bees Sting, says M. H. Mendleson, in Gleanings in Bee-Culture. It is generally believed that certain odors irritate bees, but some dispute that color has any effect. Mr. Mendleson says he buys light, odorless clothes and has no trouble. A gray and a brown horse of his pasture off the grass among the bees, and the brown is often stung at a distance from the hives, while the gray is never stung except when switching the flies.

Does Loss of Sting Cause Death? is a question discussed in Gleanings in Bee-Culture, by G. M. Doolittle. Among other things, he says he once mailed a queen on an eight days' journey, putting in with her a worker that had left its sting in his finger, and the customer wrote him that every worker in the cage was alive. Editor Root says that he has several times confined in cages bees deprived of their stings, and they lived two or three weeks, or as long as they would have lived with their stings.

Two Queens in a Hive.—An unusual case was this: June 26 I found in a nucleus a young queen with her wings gnawed entirely away. Directly I found on the same comb a young queen with perfect wings. The two met and had a little conference, but did not seem very hostile. Next day both were present; the 28th I saw the winged one; 29th, the wingless one; July 3, the winged one. So both were there together at least three days, and whether the wingless one is still there I don't know.—Gleanings in Bee-Culture.

Crimson Clover.—J. W. Allison, in the National Stockman, says the chief value of crimson clover is as a soil renovator, for which purpose he considers it superior to any other plant grown. August sowing made a failure, but earlier sowing succeeded. It makes fair hay, but is very hard to cure. It yields $6\frac{1}{2}$ bushels of seed per acre. Sow from July 15 to 20, cover the seed one to three inches—no danger of getting it too deep—then it will make such a good growth by winter that if it does winter-kill you still get big pay for it as a fertilizer.

Shade for Bee-Hives.—Editor Root probably voices the general sentiment in Gleanings in Bee-Culture, when he advocates the shade of trees as the best. He has a decided dislike for grapevines nicely trellised up, because their care is laborious, and because the rapidly growing shoots get in the way of the operator. Near almost every farmhouse stands an orchard, and there, Mr. Root thinks, is the proper place for an apiary. A hive can be so placed under a tree that it is fully shaded during the heat of the day, the sun shining upon it early in the forenoon and late in the afternoon, when the heat is milder.

Izal for Foul Brood.—While drugs for the cure of foul brood are not looked upon with very great favor in this country, the case seems to be somewhat different across the water. The editor of Bee-Chat, especially, is enthusiastic as to the use of izal. He says:

"It is a fatal error for our scientists to preach the indestructible nature of foul brood spores, in that they readily germinate in the living temperature of the hive, they are easily disposed of in detail, and, therefore, with a little assistance, the strong colony will have no more of them. Only cause the spores to germinate where the said germs find no means of continued propagation and there is an end of them. We have proved conclusively, a strong colony will, under certain conditions, give no resting-place to spores or germs; how much more so with judicious assistance!"

J. O. Beuttler reports in the same journal that by taking the disease in its early stages he is entirely successful with the following mode of treatment:

"If I suspect a hive, I take out the brood-combs, and find in its early stages the disease exhibited here and there in two or three cells by a yellow-looking grub or a dark-sunken-looking covered cell, or even one pierced with small, irregular openings; directly I see this, all such cells, if possible, are cleared out (I use the end of a match) and sealed cells are broken open; when this is done, the bees clear

them out, but if not they often leave them sealed up, and give rise to a possible source of infection hereafter. I then see that the napthaline supply in the hive is a liberal one—in fact that the hive on opening it smells of the napthaline. I then feed regularly, and in as great a quantity as they can take down, with syrup medicated either with izal or napthol beta. Directly the bees take this down, there is a noticeable alteration in their behavior, they become more energetic, and a week after the commencement of this treatment, on opening the hive, you will notice the foul-broody cells cleaned out, and healthy brood in its various stages all around the infected area. Again, any more cells which appear infected are opened up and cleaned out, and the feeding, etc., is kept up until the hive has a clean bill of health. If the bees will not take down the medicated food, I force it into the cells with a syringe."

Alsike Clover will yield honey for six weeks, with frequent rains, and a heavy flow for a full month when all conditions are favorable, says F. A. Snell, in Gleanings in Bee-Culture. It may be cut for hay when just nicely in bloom, and thus made to yield honey later. A strong point in favor of Alsike is its hardness. Mr. Snell has never known it to winter-kill, and it has repeatedly wintered well when red clover has killed out entirely. If not wanted for seed, it is well to sow a little timothy with it, as it stands up better. The length of stalk is usually two to three feet—sometimes on rich land four feet.

Powdered Sugar for Queen-Cage Candy.—"Cogitator" says, in the American Bee Journal, that if powdered sugar is almost always largely cornstarch, it has an important bearing on the provisioning of queens for journey. Worth thinking about. [We have used what is called confectioners' and powdered sugar; but the former contains starch, without a doubt, and it is liable to kill bees and queens in queen-cages provisioned with candy made with it. We have, during the last few years, ordered powdered sugar, and specified that it should contain absolutely no starch. Since we have discovered that confectioners' sugar contains starch, and have used nothing but the powdered sugar without the starch, we have had very much better success in sending queens long distances. With powdered-sugar candy we provision long-distance cages, sending them to Italy, and then have them returned with queens and bees. We have had several shipments by mail, of a dozen each, with scarcely the loss of a queen.—ED.]—Gleanings in Bee-Culture.

A Simple Solar Wax-Extractor, for those who have not more than 20 colonies, is given in the British Bee Journal, by Walter Reid, as follows:

"The first requisite is a wash-hand basin, preferably white, and as round as possible inside—not flat-bottomed. Into this is placed an enamelled colander about six inches in diameter, with a small piece of muslin to cover the holes and strain the melted wax. Upon the basin is placed a sheet of glass, and the extractor is ready for use. For the colander a small pudding-basin may be substituted, with a piece of muslin tied over the top. The pieces of comb are placed on the muslin, and the wax will be found in a cake at the bottom of the basin. In order to secure the highest efficiency, the outer basin may be placed in a box full of dry sawdust, or, better still, cork-dust. Cork-dust prevents the radiation of heat so effectively that at 8 p.m. I have found the wax of the consistency of butter, and could easily remove it with a spoon. Instead of one piece of glass a double thickness may be used, or a piece of old plate-glass. The temperature in this or any other form of solar extractor can be considerably raised by placing a sheet of glass almost vertically upon the glass cover in such a position that the rays of the sun are reflected down into the apparatus. Careful thermometric measurements have shown that the temperature may be augmented more than 50 degrees Fahrenheit by this means."

"Before placing the comb into the extractor it is worth while to cut it up and wash it in cold water. This gets rid of much of the pollen, which otherwise absorbs a considerable proportion of wax. Those who wish to obtain a maximum yield, especially in the case of old combs, should soak the crushed combs for 24 hours in cold water; then boil for a few minutes, and extract the crude cake of wax in the solar extractor."

The Premiums offered on page 474 are well worth working for. Look at them.

Root's Column

GLEANINGS AT REDUCED RATES....

We do not need to tell you about our journal, for it will speak for itself; but as an extra inducement we make the following low offers:

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For 50 cents we will send GLEANINGS IN BEE-CULTURE 6 months beginning July 1 and Vol. I of Gleanings. This is for the year 1873. There are many interesting things. There are 12 articles on "Starting an Apiary," and while some of these may not be practical now, there is much valuable information and it gives a good idea of bee-keeping at that time. Our supply is limited and of course we cannot continue this offer long.

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In the multitude of counsellors there is safety.—Prov. 11:14.

Water in the Apiary—How to Supply.

Query 99.—Is water in the apiary for the use of the bees a necessary factor? If so, please give one or more methods for supplying it.—UTAH.

G. M. Doolittle—Yes. Small streams and ponds near by give me all the bees require.

J. M. Hamaugh—Yes, or thereabouts. A long narrow box with a float to prevent drowning.

R. C. Aikin—I think not, but I frequently give water. I have a big galvanized pan with stones in it.

Dr. C. C. Miller—it's a good thing. A six gallon crock with sticks of firewood and filled up with water.

Prof. A. J. Cook—Yes, unless it can be secured hard by. In a dish with slatted float, or covered with chips.

Dr. J. P. H. Brown—It is a very necessary factor when breeding. Shallow wooden troughs placed about the apiary.

W. G. Larrabee—Of course, water is necessary, but in most locations it can be had without being supplied by artificial means.

P. H. Elwood—Locate your bees near the water. If you cannot, then take the water to them. I have never found the latter necessary with me.

Chas. Dadant & Son—Yes, but they usually find it, if only from the dew. Supply an inverted jug on a dish covered with a piece of woolen cloth.

E. France—That would depend upon the distance to a supply outside of the yard. A shallow tub, or box with floats in it, is a good water arrangement.

O. O. Poppleton—I have never yet kept bees where they couldn't get what fresh water they wanted from natural sources. I think it is necessary they should have fresh water.

Mrs. L. Harrison—It is. I place tubs such as butter comes in, with a cloth hanging in and out of it. One with water a little brackish; a spoonful of salt to a pail of water.

G. W. Demaree—if there are open pools or ponds of water-brooks or open springs within half-mile of the apiary it would be a waste of time to water bees by artificial means.

J. E. Pond—I have never so considered it. A good plan for watering is to place shallow troughs in the yard filled with chips or cut straw, on which the bees can rest while taking water from them.

C. H. Dibbern—Yes, it is very important to have water conveniently near the apiary. A beer-keg with a small hole near the bottom, with a quill partly plugged up, allowing the water to drip on a gunny sack, is good.

Eugene Secor—Water in or near the apiary is desirable. If none is near I would supply it. A Mason fruit-jar, or similar vessel, a pine board and a jack-knife are all the capital needed to make an excellent drinking fountain.

Emerson T. Abbott—I think it is. I let my bees drink out of the chicken trough, which is a wooden box with slats over it to keep the chickens from getting into the water. By the way, do you give your chickens plenty of water?

Rev. M. Mahin—Bees, at certain seasons, must have water that the nectar they gather does not supply. If there is not a supply within easy reach, it ought to be supplied. I supply it by filling open-mouthed

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Alfalfa Clover	60c	1.20	2.75	5.00
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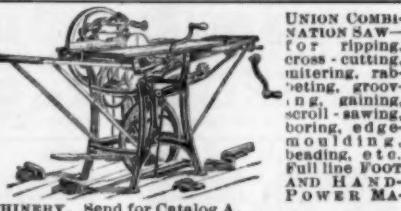
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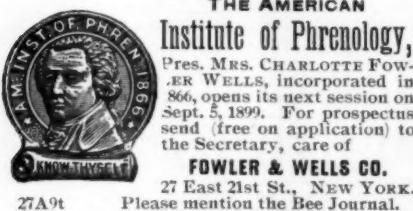
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jars or cans with water and inverting them in flower-pot saucers, putting something under one edge of the jar to raise it up so that air can get in and water get out.

Mrs. J. M. Null—Yes. Practical methods which are at once inexpensive and efficient are constantly found in the bee-papers. Common-sense and necessity will discover a feasible method. "Necessity is the mother of invention."

C. Davenport—Bees certainly require a large amount of water for brood-rearing, and if there is none near, it would be a great help to them to have it supplied near the yard. Throw a quantity of clean corn-cobs in tubs or barrels, then pour in the water.

J. A. Stone—We think it is, and keep a tub (elevated three or four feet) with a little salt in the water, and the best plan we have tried to keep the bees from drowning is the one Mr. J. Q. Smith told us about—a cloth spread over the top and sagged to dip in the water.

Adrian Getaz—It is necessary that water should be within reach. One good way to provide it is to have a sheet-iron tray about three feet wide and long, and four inches deep. Fill it with moss, and put a bucket of water in it occasionally. The moss furnishes the bees a foothold.

D. W. Heise—if there is no water close to the apiary I would consider it of benefit in early spring. Take planks and bore them full of holes, say one inch deep, with a two or three inch auger, making communications from one hole to the other. This is very cheap, and answers very well.

E. Whitcomb—As necessary as to furnish water to stock in pasture. Use chicken fountains, or jar or can inverted over a block in which grooves have been cut not quite to the outside. Try them and get rid of spring dwindling. Slightly sweeten the water for a day or two to entice the bees.

J. A. Green—Yes. As water has always been plentiful in or near my apiaries, I have had no experience with artificial methods. Their preference is for a place where they can sip water without any danger of getting wet, such as the moist soil or gravel along the edge of a stream or pond.

Mrs. A. J. Barber—Yes. A large trough with coarse hay or straw thrown in loosely several inches deep, and then water poured in, is good. The straw, if not too fine, enables the bees to get water and crawl out without getting wet. A leaky five-gallon can to drip on boards is good, but we like the trough best.

R. L. Taylor—Water is necessary for the bees, but they get it from the margins of ponds, marshes and streams. If none of these is convenient, water may be supplied near by in any kind of vessels, furnishing each with plenty of floats of shingles, pieces of boards, etc., to enable the bees to get to the water without danger of falling into it.

A. F. Brown—I have never been situated where there was a total absence of water. Being near the sea-coast (Florida), if my bees cannot get fresh water, they go to the beach by thousands and get salt water. From their anxiety to obtain it I should say it was very essential. In places where it is absent otherwise, they obtain it largely from the dews of night.

E. S. Lovesy—it is, and two of the best methods for supplying it that I know of are: First, take a good-sized pan and fill it with moderately small cobble rocks, then nearly fill it with water. Second, take a keg or small barrel, bore holes in it and stuff rags in the holes just tight enough so the water will seep thru and keep the rags wet. Keep the keg supplied with water.

Dr. A. B. Mason—for the best results it is. In less than one day about the middle of April last, 60 colonies of bees took a ten-quart pail of water that had been sweetened just enough with honey so it could be tasted as sweetened. On other days they would take from two to three quarts of water with no honey in, but in each case some cappings without honey were put on the water for the bees to alight on. A



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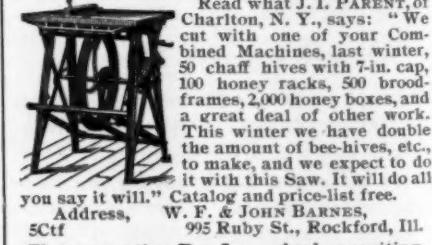
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stone crock or jar is better than a wooden vessel. Some use and prefer a glass or other receptacle turned upside down on a board with creases cut in the board, where the bees can sip the water.



Good Honey Crop Expected.

I see by the reports of different bee-keepers that the prospects are very poor for a honey crop this year. Here in southeastern Kansas the bees have had a continuous honey-flow from the time the fruit blossomed. They commenced to swarm the first of May, and swarmed until July 15. I had 17 colonies, spring count, had 17 swarms to issue. I doubled four (making 18 new swarms) and bought two, making 32 colonies now. The honey-flow is good, and the bees are working in the sections. The prospects are that there will be a good honey crop this year in this section of country. The most of the bees are kept in boxes and kegs. It is very wet here now. Some of the grain has been threshed, and some is in the shock and somewhat damaged by the wet weather. The corn crop promises the largest for several years. L. WAYMAN.
Lubbock Co., Kans., July 22.

Will Not Overstock the Market.

Western Pennsylvania will not overstock the honey market this year. Here is another to thank you for publishing Doolittle's excellent article on price of honey.

W. J. DAVIS, 1ST.
Warren Co., Pa., July 21.

Discouraging Season.

This season is very discouraging to me, as I lost nearly half of my bees last winter. I have not a pound of honey and no increase. Some of my neighbors had some swarms, and lots of honey. I have been keeping bees 10 years, and have beaten all my neighbors every year in honey and increase, until this year. My bees are blacks and hybrids. I lost what Italians I had last winter. Where I live is the coldest place in this country, and those of my bees that weren't frozen to death were chilled. Some of my best queens that were reared last year and proved to be hustlers, are no good at all this year. Not only my bees froze, but some of my farm stock. It is bad luck with me about my bees. W. W. GARDNER.
Fayette Co., Ala., July 17.

Poor Prospects for Honey.

We had a very windy, cold April, and a freeze May 22. March was very mild—fruit, willow and cottonwood all bloomed in March—and bees built up and began to swarm by April, when it turned cold and froze everything, and continued cold and

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Truly, W. H. EAGERTY, Cuba, Kansas.

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windy until May 22. Bees became very weak, and a great many died that did not have proper attention.

The mesquite was almost an entire failure for the first time in 10 years. The cause of its failure was the cold spring. Also the alfalfa was a failure until now, and bees are storing some honey from it. The sunflower is good, and another yellow flower that is good will last until November. Its name I do not know; I call it the "Alkali honey-plant."

B. Palam had 194 colonies, spring count, has had only 15 swarms, and has taken only 672 pounds of section honey up to date. He runs his bees in two apiaries about seven miles apart. Other apiaries have done about the same as Mr. Palam's.

I happened in a store in our little village a few days ago, and saw a super of honey on the counter. I looked in it, and to my surprise it was filled with $\frac{1}{2}$ depth Langstroth frames of nice white honey, but was broken in a few places, and the honey was running out. It had no cover on it except a newspaper. It was covered with flies. The merchant said, "I don't want any more honey; it is running over everything, and is only good to draw flies." I don't know what a man wants to put honey on the market for in that shape, except to disgust the merchant and ruin the price of a good article.

W. D. JEFFERSON.

Graham Co., Ariz., July 12.

Clover Almost Nectarless.

Basswood was slighted by bees, and there was not much honey in white clover this year. Last year I wanted surplus honey and no swarms; I got honey-dew but no swarms. This year I wanted surplus and swarms; only about half of my colonies swarmed, and I will get hardly any honey from the swarms this year, but about all my surplus will be from colonies that swarmed and those that did not; something unusual for me. I am shipping my honey this year, and prices are good—20 cents per pound.

I think honey-dew killed the bees last winter. I lost about $\frac{1}{4}$ of mine.

Richland Co., O., July 24. S. POLAND.

Very Short Honey Season.

I have taken 3,000 pounds of fine, white clover honey. The honey season is very short. Clover is still in bloom, but no honey since July 10. There was clover enough to give 100 pounds per colony, but it did not "give down" till late. JNO. C. STEWART.

Nodaway Co., Mo., July 24.

Hardly Any Honey.

We are in the midst of barley harvest, but $\frac{1}{4}$ of it was killed by last week's rains, and hot sun at midday. Most of it will do only for feed. I have about 100 acres of it. Wheat and oats are all right as yet, and will be ripe in about a week. There is hardly any honey.

C. THEILMANN.

Wabasha Co., Minn., July 24.

Brood Died as it Hatcht.

My apiaries did well until after heavy rains in June, then all the brood as hatcht died with something like paralysis within 24 hours. Being a "tenderfoot" in Texas, it was a new thing in my experience, but on inquiry I found it the same with others. Some said sour pollen caused it; others, poisoned honey, etc.

After close examination I found mine had no pollen, so I went to feeding rye-flour and oat-meal, dampened in straight sun-extracted honey. They had quit capping, and the brood was dying in the comb. They have now quit dying, are capping brood, and going ahead, but I suffered severely from loss, as there is no hive-force to assist the field-force, and a small white-brush flow on, still they bring no pollen to amount to anything. This is no farming country, but the bees have three acres of corn and cane

at home, and a large field of corn within about one mile.

I have had no means to find out to what extent the trouble referred to has run, only right in this neighborhood, running north on the Sabinal river. From my experience so far I think it was caused by starvation from want of pollen, as many of mine had 30 to 50 pounds of honey each in their supers.

J. M. McCURDY.

Uvalde Co., Texas, July 21.

Getting No Honey.

We are not going to get any honey at all here this year. It has been so dry, and clover had no honey in it. Only about one-fifth of the colonies have swarmed, as they are hardly getting enough to live on. Unless golden-rod yields well we shall have to feed for winter stores.

W. E. VIRGIN.

Merrimack Co., N. H., July 17.

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